

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO

UNITED STATES OF AMERICA,

Plaintiff,

vs.

Case No. 1:21-cr-00524-KWR

LUIS MARISCAL-LOPEZ,

Defendant.

MEMORANDUM OPINION AND ORDER

THIS MATTER comes before the Court on Defendant's Motion to Exclude Government Expert Witness Testimony (Doc. 96), Defendant's Motion to Exclude Government's Late-Noticed Expert Dr. Gary Mlady (Doc. 159), and the Government's Motion to Exclude Defendant's Proposed Expert Witnesses (Doc. 91). Having considered the motions, briefs, testimony, and the relevant law, the Court finds that Defendant's motions are not well-taken, and therefore, are **DENIED**. The Court finds that the Government's motion is well taken, and therefore, is **GRANTED IN PART**.

BACKGROUND

Defendant Mariscal-Lopez was indicted, along with co-Defendant Jorge Dominguez, on a two count Indictment for conspiracy to commit kidnapping in violation of 18 U.S.C. § 1201(c), and kidnapping resulting in death, in violation of 18 U.S.C. § 1201(a)(1).

On June 3, 2022, the Government filed a Notice of Intent to Offer Expert Witness Testimony. Doc. 61. On June 24, 2022, the Defendant filed Notices of Intent to Offer Expert Witness Testimony. Doc. 75; Doc. 76; Doc. 77. On July 22, 2022, the Government filed a

Motion to Exclude Testimony by Defendant's Proposed Expert Witnesses. Doc. 91. On July 29, 2022, the Defendant filed a Motion to Exclude Government Expert Witness Testimony. Doc. 96. On November 8, 2022, the Court granted in part Defendant's Motion to Exclude Government Expert Witness Testimony (Doc. 96). Doc 176.

On October 6, 2022, the Government filed an Amended Notice of Intent to Offer Expert Witness Testimony, which added Dr. Gary Mlady as an expert witness. Doc. 158. On October 7, 2022, Defendant filed a Motion to Exclude Government's Late-Noticed Expert Dr. Gary Mlady. Doc. 159. The Court denied in part Defendant's Motion to Exclude Government's Late-Noticed Expert Dr. Gary Mlady (Doc. 159). Doc. 172; Doc. 175.

On November 17, 2022, the Court held a *Daubert* Hearing to address the remaining issues raised in the Government's and Defendant's motions. The Court heard testimony from Dr. Heather J.H. Edgar, Dr. Gary Mlady, and Dr. Satish Chundru.

LEGAL STANDARD

Under the Federal Rule of Evidence 702, a witness who is qualified as an expert by knowledge, skill, experience, training, or education, may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods, and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702. The touchstone of admissibility under Rule 702 is helpfulness to the trier of fact. *See Werth v. Makita Elec. Works, Ltd.*, 950 F.2d 643, 648 (10th Cir. 1991). In

Daubert v. Merrell Dow Pharmaceuticals, Inc., the Supreme Court held that Rule 702 assigns to the district judge a gatekeeping role to ensure that scientific testimony is both reliable and relevant. 509 U.S. 579, 597 (1993); *see also Dodge v. Cotter Corp.*, 328 F.3d 1212, 1221 (10th Cir. 2003) (trial judge must determine whether the testimony has a reliable basis in the knowledge and experience of the relevant discipline).

The gate-keeping function involves a two-step analysis. First, the Court must determine whether the witness may be qualified as an expert. To qualify as an expert, the witness must possess such “knowledge, skill, experience, training, or education” in the particular field so that it appears that his or her opinion rests on a substantial foundation and tends to aid the trier of fact in its search for the truth. *See Fed. R. Evid. 702; LifeWise Master Funding v. Telebank*, 374 F.3d 917, 928 (10th Cir. 2004). “Rule 702 thus dictates a common-sense inquiry of whether a juror would be able to understand the evidence without specialized knowledge concerning the subject.” *United States v. McDonald*, 933 F.2d 1519, 1522 (10th Cir. 1991).

Second, if the witness is so qualified, the Court must determine whether the expert’s opinions are reliable under the principles set forth in *Daubert* and *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137 (1999). In *Daubert*, the Supreme Court identified five factors that may or may not be pertinent in assessing reliability: (1) the theory or technique in question can be and has been tested; (2) it has been subjected to peer review and publication; (3) it has a known or potential error rate; (4) the existence and maintenance of standards controlling its operation; and (5) whether it has attracted widespread acceptance within a relevant scientific community. 509 U.S. at 593–94.

Under *Kumho Tire*, a reliability finding is a prerequisite for all expert testimony in areas beyond the knowledge and experience of lay jurors, not just technical or scientific evidence.

When assessing the reliability of a proposed expert's testimony, the Court may consider the *Daubert* factors to the extent relevant, which will depend on the nature of the issue, the expert's particular expertise, and the subject of his testimony. *Kumho Tire*, 526 U.S. at 150–51.

“[W]hether *Daubert*'s specific factors are, or are not, reasonable measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine.” *Kumho*, 526 U.S. at 139.

Where an expert witness's testimony is based on experience, the expert witness must explain how his experience leads to the conclusion reached, why that experience is a sufficient basis for the opinion, and how that experience is reliably applied to the facts. *See United States v. Nacchio*, 555 F.3d 1234, 1258 (10th Cir. 2009) (quoting Fed. R. Evid. 702 advisory committee's note (2000)).

Rule 702 further requires that expert testimony is relevant. One aspect of relevance is that the opinions have a sufficient factual basis and a reliable application of the methodology to the facts. *Daubert*, 509 U.S. at 591.

Although the Court is required to conduct a *Daubert* examination of all experts before it, it need only expressly address the specific objections raised by the parties. *United States v. Avitia-Guillen*, 680 F.3d 1253, 1259 (10th Cir. 2012) (“When a party fails to object to an expert's methodology, the district court need not make explicit findings.”). The proponent of the expert bears the burden by a preponderance of the evidence to establish that the requirements for admissibility have been met. *See Nacchio*, 555 F.3d at 1251.

DISCUSSION

A. Admissibility of Dr. Heather J.H. Edgar's Testimony

The Defendant argues that Dr. Edgar should not be able to testify on the identification of the 2018 to 2020 bones because her opinion is not based on sufficient data and the methodology is not reliable. Doc. 96 at 10. The Government contends that Dr. Edgar followed the protocols in her field in examining the remains, identifying bones, and identifying Jane Doe. Doc. 105 at 7. The Court finds Dr. Edgar is qualified as an expert and that her opinion is reliable.

1. Qualification

The Defendant does not contest Dr. Edgar's qualifications. Doc. 96 at 5. Dr. Edgar is a professor and forensic anthropologist with the University of New Mexico and the Pathology Department for the New Mexico Office of Medical Investigator. Doc. 105-4 at 1. Dr. Edgar received a Master of Arts in Anthropology from Arizona State University and a Doctor of Philosophy in Anthropology from Ohio State University. *Id.* Dr. Edgar is also a Diplomate on the American Board of Forensic Anthropology. *Id.* Based on Dr. Edgar's knowledge, skill, experience, training, or education, the Court finds that Dr. Edgar is qualified in the field of forensic anthropology.

2. Reliability

First, Defendant argues that there were a low number of bones recovered and that Dr. Edgar changed certain conclusions in the 2018 report to fit the identification of the 2020 remains. Doc. 199 at 4. Therefore, her opinion is not based on sufficient data. The Government argues that Dr. Edgar had enough data points to sufficiently conclude that the two sets of remains are consistent in size, shape, and thermal damage to make a positive identification. Doc. 200 at 9-10. The Court finds that issues regarding the quality of data are best addressed in cross-examination.

Reliability "is primarily a question of the validity of the methodology employed by an expert, not the quality of the data used in applying the methodology or the conclusions

produced.” *In re Urethane Antitrust Litig.*, 768 F.3d 1245, 1263 (10th Cir. 2014). “Accordingly, a district court must admit expert testimony as long as it is based on a reliable methodology. It is then for the jury to evaluate the reliability of the underlying data, assumptions, and conclusions.” *Id.* The Court finds that Defendant’s concerns about the amount of unidentified bone fragments and changes in Dr. Edgar’s conclusions are best addressed in cross examination and left to the jury to determine the reliability. *United States v. Foust*, 989 F.3d 842, 847 (10th Cir.), *cert. denied*, 211 L. Ed. 2d 137, 142 S. Ct. 294 (2021). “Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Daubert*, 509 U.S. at 596, 113 S.Ct. 2786.

Second, Defendant argues that the methodology used to compare the 2018 to the 2020 remains is not reliable because the method is normally used for comingled remains and that the instant case did not involve comingled remains. Doc. 199 at 4. The Government argues that Dr. Edgar followed the methodology and procedures established by the Scientific Working Group for Forensic Anthropology (SWGFA). Doc. 200 at 11-12. The Court finds that Dr. Edgar’s methodology in comparing the 2018 to 2020 remains is reliable.

Dr. Edgar explained that she used visual pair-matching to compare the 2018 and 2020 bones. Visual pair matching is “the primary method in the field.” Tr. at 28. The process requires you to “look at two set of bones and decide whether they are the same or not.” *Id.* There are two methods of visual pair matching – morphology and metric matching. Dr. Edgar submitted numerous articles to the Court, establishing that visual pair-matching is both peer reviewed, published, with known and potential error rates, and has widespread acceptance within the anthropology community. Defendant’s primary concern is that visual pair-matching is normally

used in comingled situations, such as mass graves or natural disasters. The Court is not convinced. As Dr. Edgar testified, “The situation of – that we’re talking about here, where we have a single individual with bones coming from different places, is so rare that there’s not papers written about it.” *Id.* at 54. Even though this instant case is rare, does not mean that methodology changes. In fact, Dr. Edgar confirmed that “[t]he method is the same regardless of the source of remains.” *Id.* Therefore, the Court finds that Dr. Edgar’s testimony is reliable.

3. Relevance

The Court finds Dr. Edgar’s testimony relevant. Dr. Edgar will testify about whether the 2018 and 2020 remains are the from the same person, Jane Doe. Therefore, Dr. Edgar’s testimony and specialized knowledge will help the jury “understand evidence [and] determine a fact in issue.” Fed. R. Evid. 702(a).

The Court concludes that Dr. Edgar is qualified to give the proposed testimony, that Dr. Edgar’s testimony is both relevant and reliable, and that such testimony will assist the jury. The Court finds that Dr. Edgar’s testimony is admissible.

B. Admissibility of Dr. Gary Mlady’s Testimony

Defendant argues that Dr. Mlady is not qualified in forensic radiology because there is no formal certification or standardization for forensic radiology. Doc. 199 at 8. Defendant also argues that Dr. Mlady’s radiographic comparison identification is inadmissible because the radiographic comparison is purely subjective for identification. Doc. 199 at 7. The Government argues that Dr. Mlady is qualified because of his experience in forensic radiology. Doc. 200 at 17. The Government further argues that forensic radiology meets the *Daubert/Kumho Tire* factors. Doc. 200 at 19. The Court finds Dr. Mlady is qualified as an expert and that his opinion is reliable.

1. Qualification

Defendant argues that there is not specific standardization on who qualifies to handle radiographic comparison. Doc. 199 at 8. The Government argues that his knowledge, skill, experience, training, and education makes Dr. Mlady qualified. Doc. 200 at 16. The Court agrees with the Government and finds Dr. Mlady is qualified as an expert.

Even though there is no accreditation in the United States for forensic radiology, Dr. Mlady's knowledge, skill, and experience makes him qualified as a forensic radiologist. Dr. Mlady received his Doctor of Medicine from Saint Louis University Health Science Center and his residency in Radiology from the University of New Mexico. Doc. 179-1 at 1. Dr. Mlady is the Chair of the Department of Radiology for the University of New Mexico. *Id.* As a radiologist, Dr. Mlady has experience using imaging techniques to diagnose diseases. Tr. at 78. Dr. Mlady also has experience in forensic radiology. He started actively consulting the Office of Medical Investigators in forensic radiology in 2010. *Id.* Dr. Mlady was the primary forensic radiologist for six to seven years and completed over 100 accurate radiographic comparisons identifications. *Id.* at 79-80. It clear to the Court that Dr. Mlady is qualified in forensic radiology.

2. Reliability

Defendant argues that there are no standardized principles and methods in radiographic comparisons identification, and thus, the principles cannot be reliably applied. Doc. 199 at 7. The Government argues that forensic radiology has been tested, subject to publication and peer review, and has known error rates. Doc. 200 at 19. The Court agrees that there is a lack of standardization within radiographic comparison identification, specifically regarding the number of concordant features needed for a positive identification. However, the Court finds that Dr. Mlady's methodology and protocols satisfy the reliability standard under Daubert.

The reliability inquiry “is a ‘flexible one.’” *United States v. Baines*, 573 F.3d 979, 989 (10th Cir. 2009) (quoting *Daubert*, 509 U.S. at 594). The *Daubert* list of factors is neither exclusive nor definitive; expert testimony need not meet all of them to be deemed sufficiently reliable. *Id.*; *United States v. Medina-Copete*, 757 F.3d 1092, 1103 (10th Cir. 2014). A court need not discuss all of these factors: “A district court’s gate-keeping function is more flexible than that, requiring the court to focus its attention on the specific factors implicated by the circumstances at hand.” *Storagecraft Tech. Corp. v. Kirby*, 744 F.3d 1183, 1190 (10th Cir. 2014). The “reliability criteria enunciated in *Daubert* are not to be applied woodenly in all circumstances.” *Medina-Copete*, 757 F.3d at 1103 (quoting *United States v. Garza*, 566 F.3d 1194, 1199 (10th Cir. 2009)).

The Court is aware that radiological comparison identification is a developing field. It is not the Court’s task to determine the admissibility of radiological comparison identification for *all* cases, but to determine the admissibility of Dr. Mlady’s expert testimony. *Baines*, 573 F.3d at 989 (“Although this record raises multiple questions regarding whether fingerprint analysis can be considered truly scientific in an intellectual, abstract sense, nothing in the controlling legal authority we are bound to apply demands such an extremely high degree of intellectual purity.”) Dr. Mlady testified that he compared postmortem and antemortem radiological imaging to determine identification. Tr. at 81. Dr. Mlady compared and determined if there were consistencies between the images which include normal variations and abnormal variations. *Id.* at 85. Dr. Mlady also went through the image to determine any inconsistencies. *Id.* at 90. Dr. Mlady’s methodology is identical to the SWGFA comparative radiograph identification procedures:

The procedure for identification by comparative radiograph typically involves obtaining antemortem radiographs of the suspected deceased, producing postmortem radiographs

that simulate the antemortem radiographs in scope and projection, and performing a point-by-point comparison, looking for consistencies and inconsistencies...There is not an established minimum number of points of concordance or threshold for the quality of consistencies necessary to support a positive identification. The antemortem and postmortem radiographs should match in sufficient detail to conclude that they are from the same individual with no unexplainable differences. Consideration should be given to the uniqueness or populational frequencies of particular skeletal features, if known.

Doc. 105-5 at 2. There is debate about the specific number of features needed to make a positive identification. However, one study found that “the anatomical elements with the most predictive values were the cervical vertebrae, and showed that if more than one concordant feature exists there is a 99% probability of correct identification.” Doc. 194-10 at 3. When Dr. Mlady compared radiographs of the 2020 bones to Jane Doe’s CT scans, he found 16 concordant normal variations and 1 concordant abnormal variation between the 2020 radiograph bones and Jane Doe’s CT scan, far more than one. While it is a developing field, the Court finds that the methodology and techniques Dr. Mlady used to determine the identification were reliable under *Daubert* standards.

3. Relevance

The Court finds Dr. Mlady’s testimony relevant. Dr. Mlady will testify about whether the 2020 remains are identifiable to Jane Doe. Therefore, Dr. Mlady’s testimony and specialized knowledge will help the jury “understand evidence [and] determine a fact in issue.” Fed. R. Evid. 702(a).

The Court concludes that Dr. Mlady is qualified to give the proposed testimony, that Dr. Mlady’s testimony is both relevant and reliable, and that such testimony will assist the jury. The Court finds that Dr. Mlady’s testimony is admissible.

C. Admissibility of Dr. Satish Chundru’s Testimony

Defendant intends to call Dr. Chundru to discuss “the unreliability and lack of scientific basis of the identification of the bones recovered” and the unreliability of antemortem and postmortem radiographic scans in identification. Doc. 95 at 1. The Government argues that Dr. Chundru is not an expert in forensic anthropology or radiology and that Dr. Chundru did not apply a reliable methodology to form his opinions. Doc. 200 at 22-23. The Court agrees with the Government and finds Dr. Chundru is not a qualified or reliable expert to discuss these topics.

1. Qualification

Dr. Chundru is a forensic pathologist for ISDP Consulting, LLC. Doc. 95-1 at 1. He received his Doctor of Osteopathic Medicine from University of North Texas Health Science Center and completed his residency in Anatomic and Clinical Pathology at University of Texas Medical Branch. *Id.* The Court finds Dr. Chundru is qualified in forensic pathology; however, Dr. Chundru is not qualified in anthropology or radiology. *See Ralston v. Smith & Nephew Richards, Inc.*, 275 F.3d 965, 970 (10th Cir. 2001) (cautioning that possession of a medical degree “is not sufficient to permit a physician to testify concerning any medical-related issue”).

An expert “should not be required to satisfy an overly narrow test of his own qualifications.” *Gardner v. General Motors Corp.*, 507 F.2d 525, 528 (10th Cir. 1974) (citing Fed. R. Evid. 702 Advisory Committee Note (1972)). Nonetheless, an expert must “stay[] within the reasonable confines of his subject area.” *Ralston*, 275 F.3d at 970. Here, Dr. Chundru has gone far outside his subject area of forensic pathology.

Dr. Chundru is not an anthropologist. He testified that he had experience working with forensic anthropologists and reviewing anthropologist reports. He further testified that he has “done dozens of skeletal remains.” Tr. at 146. Dr. Chundru has failed to show how his experience has provided a sufficient basis for his opinion or conclusion. For example, when

directly asked if his opinion about duplicate bones was based on his 18 years' experience of looking at bones, Dr. Chundru testified, "Well, no. This is just common sense." *Id.* at 153. He also admitted that he does not have the same skill sets as an anthropologist. He testified, "Like I said, I can't look at those bones and evaluate it like [Dr. Edgar] can. . ." *Id.* at 157. The Court finds that Dr. Chundru is not qualified to discuss anthropological identification.

Similarly, Dr. Chundru is not a radiologist. He testified that he has "done dozens of x-ray comparison." *Id.* at 160. The Court finds having "some marginal familiarity with general concepts" of radiographic comparisons is insufficient to satisfy *Daubert's* standards. *Ralston*, 275 F.3d at 969-70 9 (concluding district court did not err in finding expert unqualified who "knew little—if anything—about the subject," and had "done no research" on topic); *see also Taber v. Allied Waste Systems, Inc.*, 642 Fed. Appx. 801, 807 (10th Cir. 2016) (holding that district court did not abuse its discretion in finding expert unqualified who "conducted an estimated one thousand investigations" in his field but "could recall working on only one case" similar to that at issue before court). For example, Dr. Chundru reviewed Jane Doe's radiographic scans, and he testified that "I saw some radiologic images, but, personally, I couldn't make anything out of them. I didn't have the same kind of setup as the radiologist." Tr. at 177.

More concerning, Dr. Chundru discussed how he falsely identified someone using the wrong chest x-ray. Dr. Chundru testified "And so one of those occasions, it was in Las Vegas, I said yeah, okay, sure, [the x ray] looks the same, because I was confident from the investigation and the circumstances that it was this person, and we're just kind of using radiology because somehow people think that radiology's scientific, and so let's use that, where its just another piece of the circumstances that puts everything together that says it's this person. And so another

technician comes in the radiology room and says, ‘Oh Doc, that’s the wrong chest x-ray. Let me put up the correct postmortem one.’ Because there was a different – They had like three or four that they were doing at the same time, so they put the wrong one up. And so here I was, you know, saying, ‘Yeah, sure, okay,’ and it was the wrong x-ray, because some of the things did look very morphologically similar.” Tr. at 161-62. His inability to recognize the wrong chest x-ray establishes that Dr. Chundru is not qualified to discuss radiographic comparison identification.

2. Reliability

Dr. Chundru’s opinion in anthropology and radiology identification is also not reliable. He does not offer any theory or technique in how he reached his anthropology related conclusions, and instead offers general statements of his opinion. For example, he testified, “you know, to say that these are all human, it’s just a little suspicious about that.” Tr. at 150. He admitted that he would have to consult with an anthropologist to contradict Dr. Edgar’s report, stating he “would have another anthropologist look at it independently” *Id.* at 157. “For me to refute the issues I have with her second report, you don’t need any articles. It’s common sense.” *Id.* at 184. Dr. Chundru has failed provide a methodology he relied on to reach his opinion, and thus, the Court finds his testimony is not reliable.

Dr. Chundru explained his methodology of making identifications through chest x-rays. “I just did it myself. Like I said, chest x-rays, they’re not great, but I’m *not looking for something that is similar*. I’m making sure that there’s nothing different.” *Id.* at 189 (emphasis added). However, Dr. Chundru’s procedures are different from the procedures discussed by Dr. Mlady and the SWGFA. *Compare Id.* at 189 with Doc. 105-5 at 2 (discussing the need to look for consistencies and inconsistencies to find points of concordance). Furthermore, Dr. Chundru does

not offer any articles to support his methodology or articles to refute Dr. Mlady's methodology. Finally, as discussed, Dr. Chundru's incorrect identification using chest x-rays, establishes to the Court that Dr. Chundru's particular methodology is not reliable.

3. Relevance

Because Dr. Chundru is neither qualified nor reliable to discuss matters related to anthropology or radiology comparison identification, the Court finds that Dr. Chundru's testimony is not relevant to the proceedings.

The Court concludes that Dr. Chundru is not qualified to give the proposed testimony, that Dr. Chundru's testimony is not relevant or reliable, and that such testimony will not assist the jury. The Court finds that Dr. Chundru's testimony is inadmissible.

IT IS THEREFORE ORDERED that Defendant's Motion to Exclude Government Expert Witness Testimony (Doc. 96) and Defendant's Motion to Exclude Government's Late-Noticed Expert Dr. Gary Mlady (Doc. 159) are **DENIED**.

IT IS FURTHER ORDERED that the Government's Motion to Exclude Defendant's Proposed Expert Witnesses (Doc. 91) is **GRANTED IN PART** to exclude Dr. Chundru's testimony.



KEA W. RIGGS
UNITED STATES DISTRICT JUDGE